Remarks

[0001] Herein, the "Action" or "Office Action" refers to the Office Action dated November 9, 2006.

[0002] Applicant respectfully requests reconsideration and allowance of all pending claims of the application. Claims 1-37 are presently pending. Claims 1, 15, and 27 are amended herein. Support for the amendments can be found at least at: page 6 lines 6-11, page 11 lines 1-24, page 12 lines 1-12, and Figs. 1-4 of the specification as-filed. Claims withdrawn or canceled herein are None. New claims added herein are None.

Formal Request for an Interview

[0003] If the Office's reply to this communication is anything other than allowance of all pending claims, then Applicant formally requests an interview with the Examiner of this patent application. I encourage the Examiner to contact me—the undersigned attorney for the Applicant—to schedule a date and time for a telephone interview that is most convenient for both of us. Please email me at chrisf@leehayes.com. Should you contact me by email, please copy my assistant Carly Taylor (carly@leehayes.com) as well. While email works great for me, I welcome you to call either of us as well.

Substantive Claim Rejections

35 USC § 112 Claim Rejections

[0004] Claims 9-11, 23-24, and 34-36 are rejected under 35 USC §112 failing to comply with the enablement requirement (*Office Action* p. 2). It appears that the Examiner feels that it is unclear how to mix various signals together, and to still be able to detect a watermark on the omnibus mixed signal (*Office Action* p. 2). The Examiner indicates that the specification page 11 line 1- page 15 line 24 gives no information on how to combine the different signals without destroying the watermark or hiding it so that it is undetectable among the omnibus mixed signal (*Office Action* p. 2).

[0005] Applicant respectfully traverses the §112 rejections, and requests reconsideration and allowance in light of the comments and amendments contained herein.

[0006] Applicant submits that each of the rejected claims is adequately enabled by the disclosure. Applicant first notes that it is well settled in case law that a patent need not teach, and preferably omits, what is well known in the art (MPEP §2164.01). Applicant further submits that a person of ordinary skill in the art knows that watermarks are typically fairly robust in design so that the watermarks will remain intact after purposeful attacks by pirates. Applicant also submits that the specification describes that watermarks are typically designed to remain intact after purposeful attacks by pirates, and that accordingly, it is

reasonable to assume that watermarks are also sufficiently robust to withstand mixing (*Specification*, page 12 lns.1-13).

[0007] Accordingly, for at least these reasons, Applicant respectfully requests that the §112 rejections be withdrawn and that the case be passed along to issuance.

35 U.S.C. §102 Claim Rejections

[0008] Claims 1-2, 4-8, 12-16, 18-22, 25-28, 30-33, and 37 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,442,285 to Rhoads et al. (hereinafter, "Rhoads") (*Office Action* p.3).

[0009] Claims 1, 3, 9-11, 15, 17, 23-24, 27, 29, and 34-36 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2003/0063570 to Katayama et al. (hereinafter, "Katayama") (Office Action p.5).

[0010] Applicant respectfully traverses the rejections, and requests reconsideration and allowance in light of the comments and amendments contained herein. Accordingly, Applicant requests that the rejections be withdrawn and that the case be passed along to issuance.

[0011] **Claim 1** recites a computer-readable medium having a program module with computer-executable instructions that, when executed by a computer, performs a method comprising:

> obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein;
>
> testing the omnibus signal to determine if the omnibus signal includes an embedded signal therein.

§102 Rejection of Claim 1 - based on Rhoads

[0012] In order for Rhoads to anticipate this claim, Applicant submits that Rhoads must disclose each and every element and feature of the claim and that they must be arranged in the same manner as the claim. Applicant respectfully submits that Rhoads does not disclose all of the claimed elements and features of claim 1. For example, Rhoads does not show or disclose "obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein" and "testing the omnibus signal to determine if the omnibus signal includes an embedded signal therein", as recited in claim 1.

[0013] Instead, Rhoads describes methods, devices and systems for controlling operations of a device using a reconfigurable water-mark detector since it may be useful to be able to change the operation of a

watermark detector (*Rhoads*, Col.1 lns.45-53). Such changes may include how the watermark detector decodes or interprets a watermark embedded in a signal of a given media type (*Rhoads*, Col.1 lns.50-53). The capability to reconfigure the watermark detector reduces or prevents the devices and software from becoming obsolete when changes to the watermark detector are needed (*Rhoads*, Col.1 lns.53-58). Rhoads describes that it may also be advantageous to be able to reconfigure a watermark detector when the watermark technology provider wants to incorporate new features into the watermark detector, expand the payload of the watermark, or change how the watermark payload is interpreted (*Rhoads*, Col. 1, lines 61-65).

[0014] Rhoades describes that a watermark embedded in a signal of a given media type can include a command signal which can be used to trigger a change in operation of the watermark detector (*Rhoads*, Col. 2, lines 5-10). The described method changes the operation of the watermark detector based on the command signal (*Rhoads*, Col. 2, lines 7-10). This change may include changing how the watermark detector decodes or interprets a watermark in a signal of a media type (Rhoads, Col. 2, lines 8-11). After changing the operation of the watermark detector, the method decodes a usage control restriction from the watermark embedded in the signal (*Rhoads*, Col. 2, lines 5-13).

[0015] Rhoades describes various possible uses of a watermark. The possible uses include such things as pre-authorizing a track of music for specific types of use, controlling usage (number of permitted playbacks),

providing rating which indicate age-appropriateness of the content, a date indicator, and technical playback parameters (*Rhoads*, Cols. 6-7). Rhoades also describes a "capture" button which a user may select when the user hears a song playing, and wants to record and keep the song (Rhoads, Col. 8, lines 16-30). In response to the user's selection, a radio device decodes a watermark embedded in the music, and thereby determines the identity of the music (*Rhoads*, Col. 8, lines 16-30). The user's radio can then make a wireless transmission identifying the user and the desired song (identified by the watermark) so that the song can be sold/transmitted to the user (*Rhoads*, Col. 8, lines 16-30).

[0016] To support it assertion of anticipation, the Office cites to two sections of Rhoads (*Office Action* p.3; *Rhoads*, col.1 lns.46-52 and col.10 ln.65-col.11 ln.14). However, neither of the cited sections show or disclose "obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein" and "testing the omnibus signal to determine if the omnibus signal includes an embedded signal therein", as recited in claim 1. Rhoads is silent regarding such an omnibus signal and regarding testing such an omnibus signal to determine if it includes an embedded signal. Instead, the cited sections describe a water-mark detector and the "capture" feature which allows a user to select a song which playing for purchase/download (by getting information from the watermark) (*Rhoads*, Col.1 lns.45-53).

[0017] Accordingly, claim 1 is allowable over Rhoads for at least these reasons, and Applicant respectfully requests that the §102 rejection be withdrawn.

[0018] **Claims 2, 4-8, and 12-14** are allowable by virtue of their dependency upon claim 1 (either directly or indirectly). Additionally, some or all of claims 2, 4-8, and 12-14 may be allowable over Rhoads for independent reasons.

§102 Rejections of Claim 1 - based on Katayama

[0019] In order for Katayama to anticipate this claim, Applicant submits that Katayama must disclose each and every element and feature of the claim and that they must be arranged in the same manner as the claim. Applicant respectfully submits that Katayama does not disclose all of the claimed elements and features of claim 1. For example, Katayama does not show or disclose "obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein" and "testing the omnibus signal to determine if the omnibus signal includes an embedded signal therein", as recited in claim 1.

[0020] Instead, Katayama describes Katayama describes a method of embedding specific data (*i.e.,* an electronic watermark) into audio signals,

or updating specific data (*i.e.,* an electronic watermark) that has been embedded into audio signals using a minimum amount of operations (*Katayama* [0002]). Katayama describes that watermarks may include data which restricts the number of times that audio content can be copied (*Katayama* [0009]). Katayama further describes that such copyright protection is performed effectively by embedding an electronic watermark in the audio signal for every channel that contains music (*Katayama* [0006]). However, embedding the electronic watermark into every audio channel can be burdensome, for example, in the case of embedding an electronic watermark in each audio signal of two-channel (stereo) contents the amount of operations required is double that required for only one audio channel, and in the case of a six channel audio signal (such as in the case of DVR-Audio), six times the amount of operations are required (*Katayama* [0019]).

[0021] In rejecting the claims, the Office refers to paragraphs [0120] to [0186] of Katayama (*Office Action* p. 6). The cited paragraphs describe a third and a fourth embodiment of the invention of Katayama, each of these embodiments are briefly summarized below. However, the cited sections of Katayama do not show or disclose "obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein", as recited in claim 1. Instead, the cited sections describe methods of embedding an electronic watermark into audio signals, or

updating an electronic watermark that has been embedded into audio signals using a minimum amount of operations (*Katayama* [0120] to [0186]).

[0022] Turning first to the third embodiment of Katayama (*Katayama* [0120]-[0165]). The third embodiment of Katayama provides examples of operations which can be used when a four input audio signal (4-channel input) is presented, and describes using a system based on the sums and differences of signals to decrease the number of operations needed for adding an additional signal (*i.e.,* electronic watermark) to the four audio signals (*Katayama* [0162]).

[0023] Briefly summarized, Katayama describes that four audio signals A, B, C, and D are input into a first operation means 102, a second operation means 104, and a third operation means 202 which use a system based on the sums and differences of signals to decreases the number of operations needed to add an additional signal (*i.e.,* electronic watermark) (*Katayama* [0122]-[0138]). As part of the process a signal α1=A+B+C+D is output by the first operation means 102, and a signal addition means 103 adds a watermark (WM) (*i.e.,* additional signal) to α1 so that the output from the signal addition means 103 is α1'=A+B+C+D+WM, and (*Katayama* [0122]-[0138]). Finally, a signal detection means 203 extract the additional signal (*i.e.,* watermark). Katayama describes that using the system based on the sums and differences of signals decreases the number of operations needed to add

the additional signal (*i.e.,* electronic watermark) to ¼ that of the prior technology (*Katayama* [0122]-[0138]).

[0024] Katayama simply does not show or disclose "obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein" and "testing the omnibus signal to determine if the omnibus signal includes an embedded signal therein", as recited in claim 1.

[0025] As part of the process described as Katayama's third embodiment, a signal α1=A+B+C+D is output by the first operation means 102, and a signal addition means 103 adds a watermark to α1 so that the output from the signal addition means 103 is α1'=A+B+C+D+WM, and then a signal detection means 203 extract the watermark. (*Katayama* [0122]-[0138]). First, Applicant submits that the signal α1=A+B+C+D is not omnibus signal comprising multiple input signals received from multiple different sources and mixed together, as recited in claim 1, but instead represents an audio signal having four channels. Second, Applicant submits that Katayama does not show or disclose that when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein, as recited in claim 1. Instead, when the signal α1=A+B+C+D of Katayama is output it is known that the signal does not include a watermark. In fact, Katayama specifically describes that a signal addition means 103 adds the

watermark to α1 so that the output from the signal addition means 103 is α1'=A+B+C+D+WM (*Katayama* [0122]-[0138]). Further, Katayama does not show or disclose testing the omnibus signal to determine if the omnibus signal includes an embedded signal therein, as recited in claim 1. Instead, Katayama simply describes a signal extracting the watermark which had previously been added by the signal addition means 103 (*Katayama* [0122]-[0138]). In Katayama there would be no reason to test the omnibus signal to determine if the omnibus signal includes an embedded signal therein, since Katayama specifically describes that a signal addition means 103 adds the watermark to α1 (*Katayama* [0122]-[0138]).

[0026] Turning now to the fourth embodiment of Katayama (*Katayama* [0166]-[0186]). The fourth embodiment of Katayama describes a reproduction apparatus 1002 which receives an audio signal embedded with a watermark, and then reproduces the watermark (Katayama [0168]). As part of the process, a channel selection means 1004 first obtains a certain channel from the audio signal that is input to the recording apparatus 1002 (Katayama [0169]). Which channel to select is specified by the channel-data-generation means 1005, and the channel specified can be any channel selected at random, or it is possible to specify an order in which the channels are to be sent (Katayama [0169]).

[0027] Once again, Katayama simply does not show or disclose "obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the

omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein" and "testing the omnibus signal to determine if the omnibus signal includes an embedded signal therein", as recited in claim 1.

[0028] As part of the process described as Katayama's fourth embodiment, a reproduction apparatus 1002 receives an audio signal embedded with a watermark, and then reproduces the watermark (Katayama [0168]). Applicant submits that this is not the same as "obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein", as recited in claim 1. Further, even if the audio signal received by the reproduction apparatus 1002 were considered to be an "omnibus signal", there would be no reason to test the omnibus signal to determine if the omnibus signal includes an embedded signal therein, since Katayama specifically describes that the audio signal received by the reproduction apparatus 1002 includes and embedded watermark (*Katayama* [0168]).

[0029] Accordingly, claim 1 is allowable over Katayama for at least these reasons, and Applicant respectfully requests that the §102 rejection be withdrawn.

[0030] **Claims 3 and 9-11** are allowable by virtue of their dependency upon claim 1 (either directly or indirectly). Additionally, some or all of claims 3 and 9-11 may be allowable over Katayama for independent reasons.

§102 Rejection of Claim 15 - based on Rhoads

[0031] In order for Rhoads to anticipate this claim, Applicant submits that Rhoads must disclose each and every element and feature of the claim and that they must be arranged in the same manner as the claim.

[0032] Applicant respectfully submits that based on argument similar to those presented above in response to the rejection of claim 1, Rhoads does not disclose all of the claimed elements and features of claim 15. For example, Rhoads does not show or disclose "obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein" and "testing the omnibus signal to determine if the omnibus signal includes an embedded signal therein" as recited in claim 15.

[0033] Accordingly, claim 15 is allowable over Rhoads for at least these reasons, and Applicant respectfully requests that the §102 rejection be withdrawn.

[0034] **Claims 16, 18-22, and 25-26** are allowable by virtue of their dependency upon claim 15 (either directly or indirectly). Additionally, some or all of claims 16, 18-22, and 25-26 may be allowable over Rhoads for independent reasons.

§102 Rejections of Claim 15 - based on Katayama

[0035] In order for Katayama to anticipate this claim, Applicant submits that Katayama must disclose each and every element and feature of the claim and that they must be arranged in the same manner as the claim.

[0036] Applicant respectfully submits that based on argument similar to those presented above in response to the rejection of claim 1, Katayama does not disclose all of the claimed elements and features of claim 15. For example, Katayama does not show or disclose "obtaining an omnibus signal comprising multiple input signals received from multiple different sources and mixed together, wherein when the omnibus signal is obtained it is unknown whether one or more of the input signals includes an embedded signal therein" and "testing the omnibus signal to determine if the omnibus signal includes an embedded signal therein" as recited in claim 15.

[0037] Accordingly, claim 15 is allowable over Katayama for at least these reasons, and Applicant respectfully requests that the §102 rejection be withdrawn.

[0038] **Claims 17 and 23-24** are allowable by virtue of their dependency upon claim 15 (either directly or indirectly). Additionally, some or all of claims 17 and 23-24 may be allowable over Katayama for independent reasons.

§102 Rejection of Claim 27 - based on Rhoads

[0039] In order for Rhoads to anticipate this claim, Applicant submits that Rhoads must disclose each and every element and feature of the claim and that they must be arranged in the same manner as the claim.

[0040] Applicant respectfully submits that based on argument similar to those presented above in response to the rejection of claim 1, Rhoads does not disclose all of the claimed elements and features of claim 27. For example, Rhoads does not show or disclose an embedded-signal detection system comprising a single embedded-signal detector configured to "receive an omnibus mixed signal which includes multiple input signals that have been received from multiple different sources and mixed together, wherein when the omnibus signal is received by the detector it is unknown whether one or more of the input signals includes an embedded signal therein" and "wherein the detector is further configured to concurrently

test the multiple input signals to determine if at least one of the multiple input signals has an embedded signal therein", as recited in claim 27.

[0041] Accordingly, claim 27 is allowable over Rhoads for at least these reasons, and Applicant respectfully requests that the §102 rejection be withdrawn.

[0042] **Claims 28, 30-33, and 37** are allowable by virtue of their dependency upon claim 27 (either directly or indirectly). Additionally, some or all of claims 28, 30-33, and 37 may be allowable over Rhoads for independent reasons.

§102 Rejections of Claim 27 - based on Katayama

[0043] In order for Katayama to anticipate this claim, Applicant submits that Katayama must disclose each and every element and feature of the claim and that they must be arranged in the same manner as the claim.

[0044] Applicant respectfully submits that based on argument similar to those presented above in response to the rejection of claim 1, Katayama does not disclose all of the claimed elements and features of claim 27. For example, Rhoads does not show or disclose an embedded-signal detection system comprising a single embedded-signal detector configured to "receive an omnibus mixed signal which includes multiple input signals that have been received from multiple different sources and mixed together,

wherein when the omnibus signal is received by the detector it is unknown whether one or more of the input signals includes an embedded signal therein" and "wherein the detector is further configured to concurrently test the multiple input signals to determine if at least one of the multiple input signals has an embedded signal therein", as recited in claim 27.

[0045] Accordingly, claim 27 is allowable over Katayama for at least these reasons, and Applicant respectfully requests that the §102 rejection be withdrawn.

[0046] **Claims 29 and 34-36** are allowable by virtue of their dependency upon claim 27 (either directly or indirectly). Additionally, some or all of claims 29 and 34-36 may be allowable over Katayama for independent reasons.

Dependent Claims

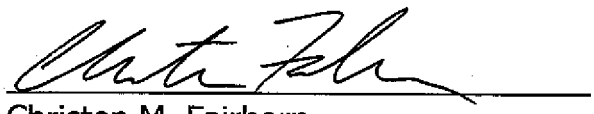
[0047] In addition to its own merits, each dependent claim is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of each dependent claim where its base claim is allowable.

Conclusion

[0048] All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the Office is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: 4-4-2007

By: 

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